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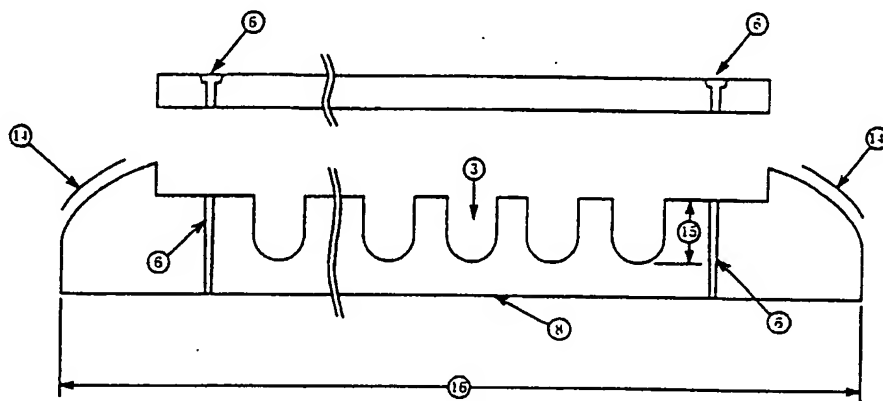
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(54) Title: WIRE ARRANGER



(57) Abstract: The invention related to the wire arranger which designed to be used universally for arrangement of the mingled cord or cable to prevent the mingling of cords or cables, short circuit, burning, interference of waves and etc. This invention is designed to use the insulating material or fire-proofing material. Basic form of this invention is composed with main body (1) and cover (2). The main body (1) has the hole for nail or screw to fix this invention on the boards including wall or iron plates. The bottom of the main body (1) is coated with sticky adhesives to fix them on the board which nailing is not necessary in case. The furrow where the cord or cable is placed (3) and the covers (2) are numbered and these would be a help to people to find cord or cable very easily what they wanted. With covering and fixing with nail or screw through main body (1) and cover (2), the cord or cable could be entrapped within furrow (3) and can not be escaped. Using this invention, wire arranger, it make look clean and well arranged cords or cables, easy to classify and repair according to their classification which save the time for repair, prevent short circuit, fire and, interference of waves.

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Wire ArrangerTechnical Field

- 5 The present invention is equipment designed to protect the wires from fire, short circuit, interference and other accidents effectively by arranging the wire in their belongings

10 Background Art

- Wire and various methods of wiring has been a necessity in modern life with the wide supply of electricity and telephone. This is also true with the recent rapid development of the internet, LAN, and electric or electronic network between families and neighbors. In order to set up these networks, metal cables including copper wires, optical cables and other kinds of wires are required.

- 15 In order to promptly use computers and computer related equipment, and many office equipments at home or office environment, variety of cords and cables need to be appropriately connected. In some of the recent industrial equipment, the cables and cords are set inside the equipment and are not visible from outside.

- 20 Equipments to arrange these cords and cables, such as specific arranger, which is manufactured for specific purpose, are available. However, universal arranger designed for the use of all purposes does not exist currently. Of course, equipments such as plastic wire designed to tie all sorts of cables and cords together are available, but they cannot be called, arranger.

- 25 When cords and cables are not properly arranged, it is visually unclean to look at, and also in case of repairing, it takes time to untie the cords and cables. Also, if the cords and cables are used for transmitting electricity and can generate heat, they can be the reason for leakage of electricity, short circuit and fire accidents. If each cable or cords are used for transmitting some kinds of wavelength, unarranged cables can cause interference and may cause some interruption to transfer the right wavelength. For these reasons, the arranger not only specific purpose but universal aim is need.

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Disclosure of Invention

There are five technological tasks for this universal arranger invention to solve the problems mentioned above. One, wire arranger needs to be able to be fixed on anywhere such as walls, metal board or etc. Two, wire arranger has to prevent the escape of the cords or cables from furrow. Three, the length and the number of furrow should be able to be freely increased or decreased. Four, repairing of the cords and cables arranged by the wire arrangement should be convenient. And five, it should be able to prevent interference and unwanted effects among waves.

This invention is made with insulating materials such as incombustible ceramic or heat resisting plastic. This wire arranger allows the cords and cables to be arranged promptly to keep the clean environment visually, and functionally can prevent electric leakage, short circuit, and fire; and the engraved numbers on the cover can help effective and easy arranging of the cables enabling convenient repair, and prevent interference between each other.

Wire arranger is composed of the main body and a cover, and the length of the main body influences the length of the cover. Length of assembling type wire arranger will be determined by the number of the parts (segments) with furrow, which will be placed at the main parts portion between both ends. In order to attach the wire arranger anywhere such as walls or metal boards, the main part of the invention consist of furrow where small hole in the center of them that screws and nails can be fix. Also strong adhesive are coated at the bottom of the invention which will increase the fixation of the screw or nail, and adhesive coating at bottom sometimes may not even need the screw or nail for fixation. The small hole at the bottom of the invention for nails or screws, and adhesive will be synergistic for the firm attachment of invention. Also, in order to prevent the cords or cables from slipping away from the furrow, it is possible to put a cover over the main body after cords or cables were placed within the furrow, or make the upper exit of the furrow narrow or meanderingly for the cords or cables can not escape from the furrow unless the they are pulled strong enough. In order to adjust the length of the wire arranger, wide variety of size and number of the main bodies should be manufactured from the start of the production according to plan, and the main body and cover will consist a set, or assembling wire arranger. Arrangement of the cords or cables along the furrows of several wire arrangers at same numbers or alphabets which carved on the main body or cover will help to confirm or identify the same cords or cables very easily when repairing of the

cords or cables are need. When the main bodies or parts are manufactured with flexible materials, if the exits of the furrow are very narrow, they will completely prevent slipping away of cord or cable from entrapped state but the cord or cable can slip away very easily when main bodies or fragments were bend their bottom, In order to prevent unwanted interference of waves between the cords and cables, narrow slits are prepared at the main body or parts to insert a plate made of materials which can prevent the interference is set up.

This invention, the wire arranger is basically comprise main body 1 and the cover 2 (Figure 1), and the length of the cover 2 is determined by the length of the main body 1. Length of the assembling type wire arranger (Figure 2) is determined by the number of the fragments including the furrow 3 (Figure 4) will be fit between the main body 1 (Figure 3) at both ends.

Inventor will describe the features and implementation examples of this invention.

First, in order for this invention, wire arranger (Figure 1), to be attached or fixed anywhere such as wall or board, this invention possesses the holes 6 which will be used for fixing this invention firmly anywhere with nail or screw and the hole 6 penetrate the main body 1, basic parts 5 (Figure 3) and cover 2.

At the same time, strong adhesive is coated to the bottom of the main body 8 or the bottom of the inserting peices 17; therefore in case of the attaching this invention to any objectives (plates, glasses or others) which adhesive plays its role effectively, it increases the fixing effect. In accordance with the purpose or the material of the wall, it may be possible to attach this invention firmly without the use of nail or screw. At the same time, the inserting piece (designed for adjusting the length of the invention) 17 (Figure 4) also has small hole 4 for nail or screw fixing this invention on to a wall and it can plays synergistic role for adhesion with coated adhesive.

In order to prevent the slipping out of the cord or cable from the furrow 3, this wire arranger will use two methods. First, shown in Figure 1, the upper part of furrow 3 is open state and cord or cable will be placed in each furrow 3 and the cover 2 is put over and fixes the cover 2 to the main body 1 by fixing screw or nails at small hole 6 to prevent the cord or cables from slipping away from the furrow 3. The other, shown in figure 5, the opening of the furrow 21 has shaped curved and narrow 18 and there is not a cover but cord or cable could not escape from furrow 21. In case of repair, only a pull is necessary is needed to take out the cord from the furrow 21.

Two methods will be used to increase or decrease the length of the invention or the number of the furrow 3. First, shown in figure 1, many kinds of main bodies 1 with various numbered and sized furrow 3, and suitable sized covers 2 are prepared from the production and is sold as a set of the main body 1 and cover 2. In this case, it does not require inserting peice 17 to increase the length of the invention. When this product is introduced to the market, consumers will be able to choose their wire arranger according to their purposed number or sized furrow 3 conveniently. The other method is by using assembling type wire arranger. Between the two end parts of the basic piece of the main body 1 (figure 3), inserting piece 17 having furrow, as shown in figure 4, is set and the projecting part 7 and depressed part 9 are fixed together and assembled wire arranger is fixed with nail and screw with the hole 4 at the bottom of the furrow or with adhesive. In other words, the length of the assembling type wire arranger is determined by the number of the inserting pieces 17 (figure 4) fixed between the basic parts of the main body 1 (Figure 3).

After the assembling type wire arranger has assembled, cord or cable is placed in the furrow 3, and a suitable cover 2 is fit over the cord or cable. Then the main part is fixed with nail or screw through the hole 6 in basic part of the main body 5, or with nail or screw through the hole 4 in the bottom of the furrow 3 of the inserting piece 10, or with the adhesive on the bottom 17 of the inserting piece 10.

For some reason, two methods will be used for convenient repair of the cords or the cables arranged by the wire arranger. First, number or alphabet is carved on the top of the cover 2 at site just above the furrow 3, 22 of the main part. The other, shown in figure 5, the material itself is manufactured with highly flexible material. The structure possesses a modified curved narrow opening 18 at the top of the furrow 3 of the main body 1, so the cord will not slip away from the furrow 21 without a certain amount of pull is applied. Especially the open space 11 in the end of main body 1 is used as space for cushion for more convenient opening of the narrow and curved opening of the furrow 21, when the mouth is widened. At the same time when the cord or cable is fully inserted through the narrow and curved opening of the furrow 21, appropriate plug which is inserted in the open space 11 (figure 5) will push the narrow curved opening from the both side of the opening 11 of the main body 1 to prevent cord or cable from slipping away. However, when removing the cords or the cables of the furrow 11, it is conveniently removed when pulled with a certain amount of force after removing

the plug of the open space 11.

In other words, repair will be more convenient because the cover 2 is not fixed on the main body 1 or inserting piece 10 with nail or screw and a simple pull will remove the cord from the furrow 21 (figure 5).

5 Even if the cords are of different kinds and there is some interference among them, to prevent any kind of interference between the neighboring cords, narrow slits 20 are prepared for plates to be inserted for prevention of interference beside the furrow 3 of the main body 1, shown in figure 6.

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Brief Description of the Drawings

Figure 1 is the approximate side view of the basic design of the wire arranger.

15 Figure 2 is the approximate side view of the assembling type wire arranger included with the inserting peices having furrow for adjustment of total size of the invention.

Figure 3 is cross-sectional view of the basic part of the main body included with the furrow for the adjustment of total size of invention.

20 Figure 4 is cross-sectional view of the part which will be inserted between parts included with the furrow for the adjustment of the length of the product.

Figure 5 is cross-sectional view of the furrow, designed with the narrow opening, which is made with flexible materials without cover. The upper exit of the furrow is very narrow and almost closed.

25 Figure 6 is cross-sectional view of composition of the product with the narrow slits for the materials designed to prevent interference between each other.

Industrial Applicability

30 The product can be put into much use according to the material and the size of wire arranger with the above-mentioned structure. It can simply be used in homes or offices to arrange any kinds of cords or cables, and it can also be used in industrial environment with big sized wire arranger with insulating, heat-resisting materials.

CLAIMS

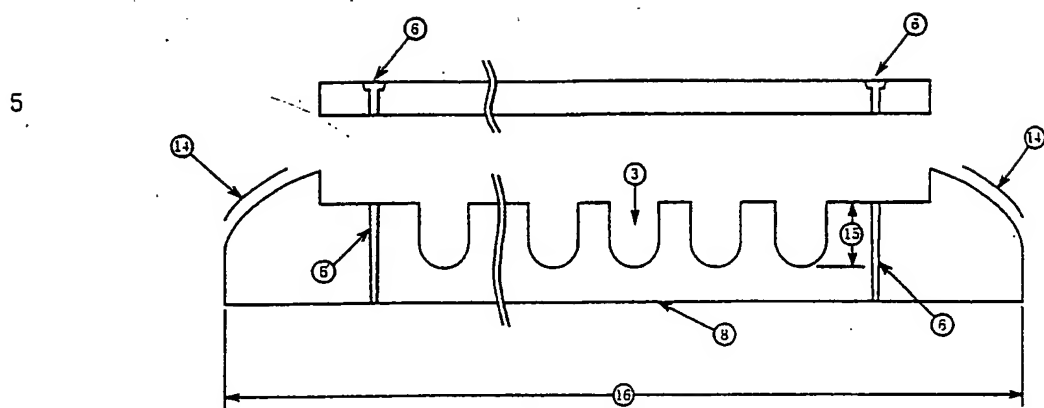
What is claimed is:

1. In the invention of wire arranger which can arrange various kinds of cords or
5 cables,
this wire arranger is basically composed of the main body 1 and the cover 2.;
both ends of the said main body 1 has various curved angled parts 14 which has
the furrow 3 where various cords or the cables are placed; and after the cord or
cable is placed within the said furrow 3, the said cover 2 is put on the said main
10 body 1; and through the said cover 2 and the said main body 1, the nail or screw
fix the cover via hole 6. On the top of the said cover 2, where the just above the
said furrow 3, numbers or alphabets are carved; and in order to attach this wire
arranger to a wall or a board, nail or screw is used through a said hole 6 going
through the said main body 1 and the said cover 2; or the adhesive coated at the
15 bottom 8 of the invention; the length 16 of the said main body is determined by
the number of inserting piece 10 containing said furrow 3 or number of said
furrow 3 in the said main body 1.
2. The wire arranger according to Claim 1, assembling type wire arranger which is
20 composed of the said main body 1 (Figure 3, 4) with one furrow 3 at both ends of
said main body 1, and inserting piece 17 (Figure 3) inserted between the both
ends of the said main body 1. At the bottom of the said main body 1 and said
inserting piece 17 are made up of various shapes of projecting part 7 which fits
perfectly into the depressed part 9 of the other end. In the wire arranger's said
25 basic part 5 and the said inserting part 10 have said holes 4,6 which are used to
attach or fix the wire arranger with nails or screws.
3. The wire arranger according to Claim 1, the opening of the said furrow 21
where cord or cable will be placed in the said main body 1 is very narrow and
30 curved in various shape 18; and at the both ends of the said main body 1, there
are opening 11 with top opened, and small hole 23 in bottom of the said opening
11 which will fix them on the wall with nail or screw or coated adhesive at the
bottom 8 of the wire arranger,
- 35 4. The wire arranger according to Claim 1, the said main body 1 has a narrow slit
20 at the mid points between two said furrows 3 for plate to be inserted to

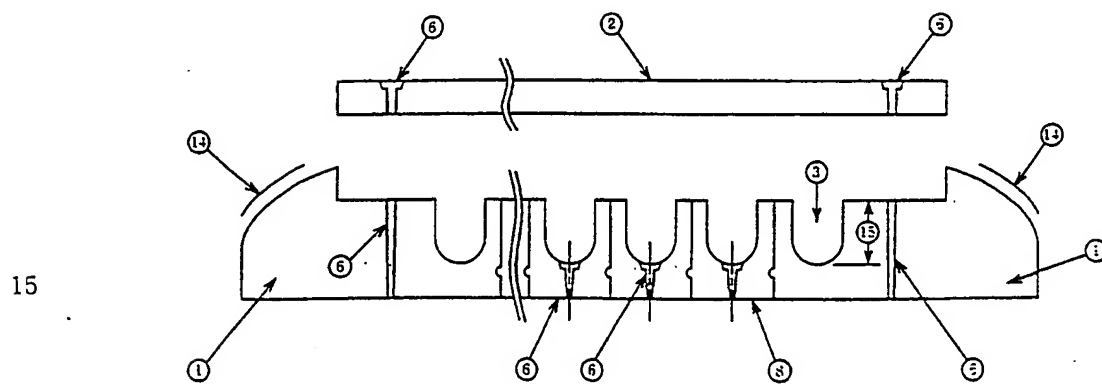
prevent interference of the wave from different cords or cables in each separate said furrow 3.

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Figure 1

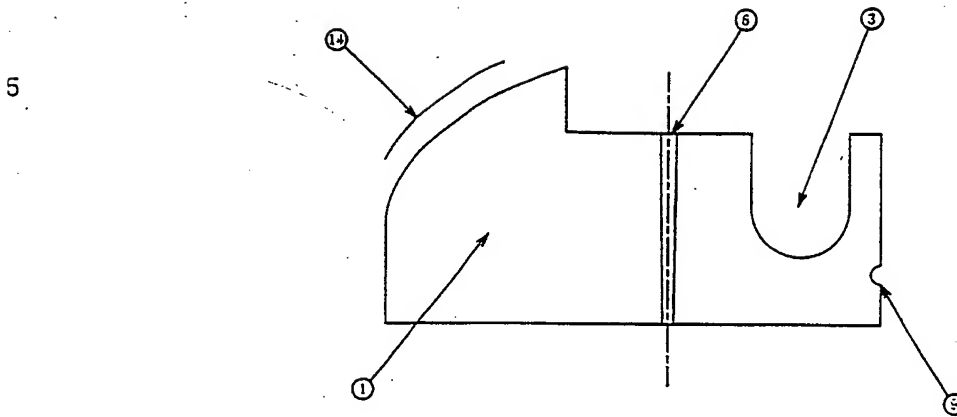


10 Figure 2

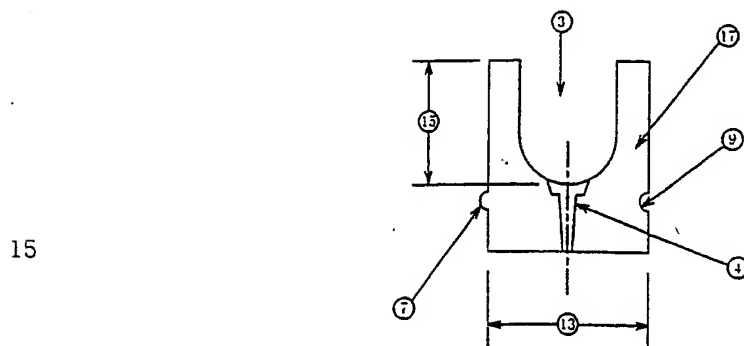


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Figure 3



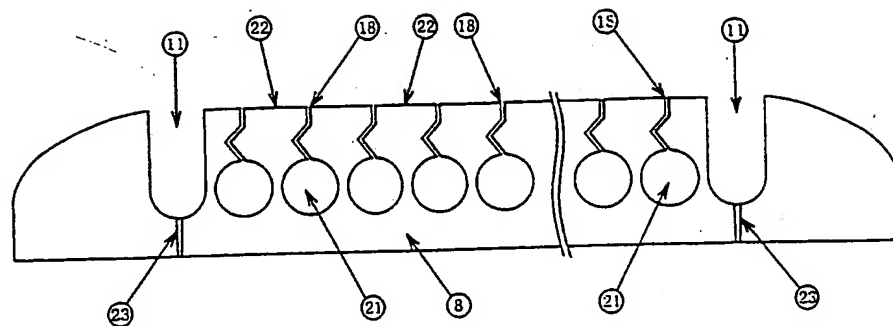
10 Figure 4



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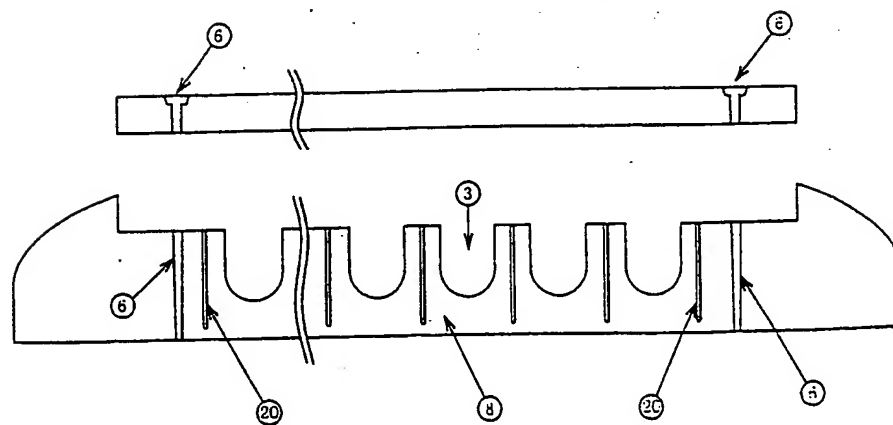
Figure 5

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10 Figure 6

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR02/01890

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H05K 7/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 H05K, B60R, H02G, E04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean patents and applications for inventions since 1975

Korean utility models and applications for utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 97-17331 U (DAEWOO MOTORS) 23 May 1997 the whole document	1, 3
X	KR 96-12956 U (KIM SEUNG WOO) 17 April 1996 the whole document	1, 3
X	KR 98-37474 A (HYUNDAI MOTORS) 5 August 1998 the whole document	1, 3
X	KR 98-21467 U (HYUNDAI MOTORS) 15 July 1998 the whole document	1, 3
X	JP 1-280394 A (FUJITSU) 10 November 1989 the whole document	1, 3
X	KR 186275 Y1 (WOOLTARI) 15 June 2000 the whole document	1, 3
A	JP 2-260497 A (FUJITSU) 23 October 1990 the whole document	1, 3

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT
Information on patent family members

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PCT/KR02/01890

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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KR 96-12956 U	17. 4. 1996	None	
KR 98-37474 A	5. 8. 1998	None	
KR 98-21467 U	15. 7. 1998	None	
JP 1-280394 A	10. 11. 1989	None	
KR 186275 Y1	15. 6. 2000	None	
JP 2-260497 A	23. 10. 1990	None	

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